

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. - 48. (canceled)

49. (Currently amended) One or more populations of gold-containing scattered light-detectable particles, wherein the coefficient of variation in size within said one or more populations is less than 5%, said particles comprising a surface coat of gold, silver or silver alloy, wherein for one or more of said populations said surface coat is about 0.5, 0.8, 1, 1.5, 2, 3, 4, 5, 6, 9, 10, 12, 19, 20, 39, 49 or 74 nm thick, and said particles having a diameter of 1 to 500 nm inclusive, and wherein said particles further comprise at least one additional material on their surfaces.

50. (Previously presented) The populations of claim 49, wherein said at least one additional material does not interact with light in the visible region of the spectrum.

51. (Previously presented) The populations of claim 50, wherein for one or more of said populations said at least one additional material comprises a protein, a nucleic acid, a peptide or a carbohydrate.

52. (Previously presented) The populations of claim 50, wherein for one or more of said populations said at least one additional material comprises a polymer.

53. - 54. (Canceled)

55. (Previously presented) The populations of claim 49, wherein said particles are spherical, oval or ellipsoidal.

56. - 62. (Canceled)

63. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a metal, a metal compound, a metal oxide, a semiconductor or a superconductor.

64-65. (Canceled)

66. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a metal-like material.

67. (Canceled)

68. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a non-metal-like material.

69-70. Canceled)

71. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a magnetic or ferroelectric material.

72. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise a mixture of metal-like materials and a magnetic or ferroelectric material.

73. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and a magnetic or ferroelectric material.

74-75. (Canceled)

76. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

77. - 79. (Canceled)

80. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and are of a size between 5 and 50 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

81-83. (Canceled)

84. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles further comprise silver and are of a size between 10 and 45 nanometers, between 50 and 70 nanometers or between 80 and 120 nanometers.

85. - 165. (Canceled)

166. (Previously presented) The populations of claim 49, wherein for one or more of said populations at least one additional material comprises a binding agent capable of binding specifically to a predetermined analyte.

167. (Previously presented) The populations of claim 166, wherein there is a detectable difference in the color of the scattered light scattered by two or more populations, and wherein said binding agent of each said two or more populations is different and is capable of binding different predetermined analytes.

168. (Previously presented) The populations of claim 49, wherein for one or more of said populations said binding agent comprises biotin, avidin, streptavidin, a nucleic acid,

a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, flourescein or a pharmaceutical agent.

169. (Previously presented) The populations of claim 49, wherein for one or more of said populations said at least one additional material comprises a plurality of base molecules.

170. (Previously presented) The populations of claim 49, wherein for one or more of said populations said at least one additional material comprises a plurality of different base molecules.

171. (Previously presented) The populations of claim 168 or 169, wherein for one or more of said populations said base molecules comprise a gelatin, a polyethylene glycol, a carbohydrate, a polyamino acid or a protein.

172. (Previously presented) The populations of claim 168, wherein for one or more of said populations at least one additional material further comprises a binding agent that is bound to said base molecules, and wherein said binding agent is capable of binding specifically to a predetermined analyte.

173. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size between 10 and 300 nm.

174. (Canceled)

175. (Canceled)

176. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 60 to 120 nm, and wherein said additional

material comprises biotin, avidin, streptavidin, a nucleic acid, a protein a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

177. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 80 nm, and wherein said additional material comprises biotin, avidin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

178. (Previously presented) The populations of claim 49, where for one or more of said populations said particles are of a size of 40 nm to 100 nm, and wherein said additional material comprises biotin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

179. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 60 nm, and wherein said additional material comprises biotin, streptavidin, a nucleic acid, a protein, a peptide, an antibody, an antigenic substance, a receptor, a hormone, digoxinin, fluorescein or a pharmaceutical agent.

180. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 80 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies, or antifuorescein antibodies.

181. (Previously presented) The populations of claim 49, wherein for one or more of said populations said particles are of a size of 60 nm, wherein said additional material comprises antibiotin antibodies, antidigoxinin antibodies or antifuorescein antibodies.

182. - 216. (Canceled)